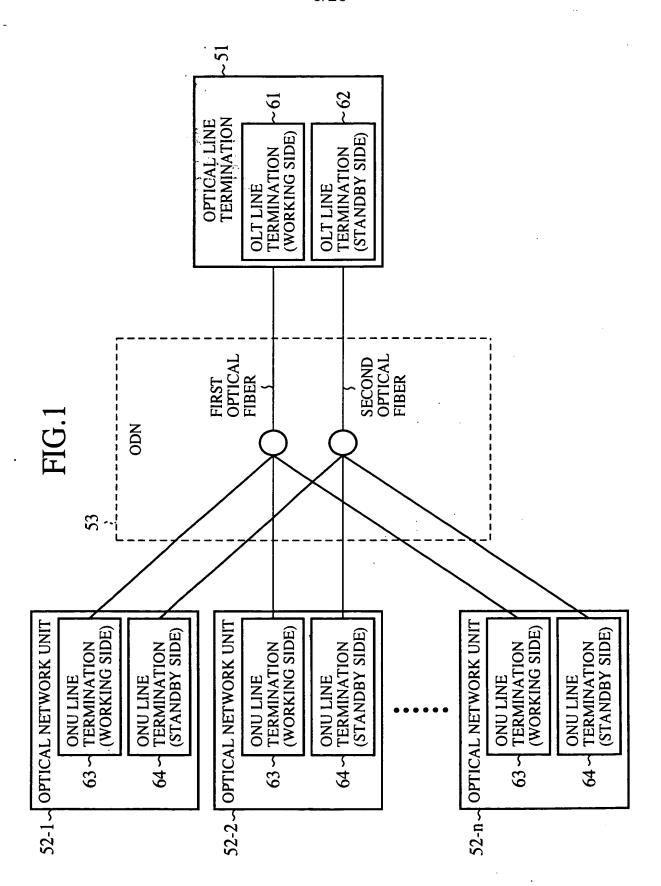
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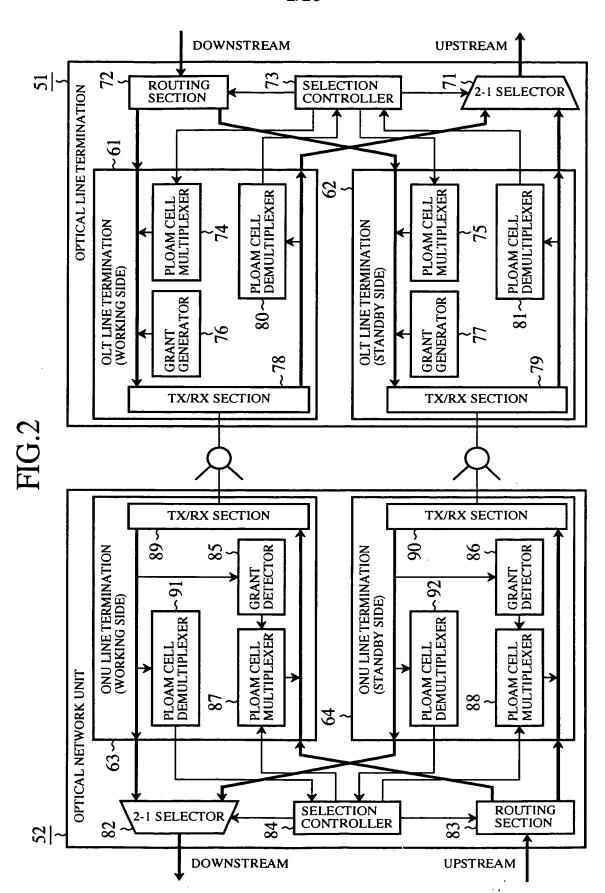


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CONTROL EXAMPLE (NON-REVERTIV	E (NON-REVEF	RTIVE MODE)	 -	FIG.3			
EATHT CTATE	ONU TO O	.0 OLT	OLT TO ONU	ONU	OPERATION	ATION	
ואוני ושטעו	KI BYTE	K2 BYTE	KI BYTE	K2 BYTE	ONU	OLT	
NO FAILURE	NO SW REQ.	(ONU IS) SELECTING WS	NO SW REQ.	(OLT IS) SELECTING WS	SL IS OPERATING IN WS	IS WORF	~ S11
	SW REQ. BY WORKING SF	(ONU IS) SELECTING WS	NO SW REQ.	(OLT IS) SELECTING WS	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-K1 BYTE	SL IS WORKING AT WS	~S12
EQUIPMENT FAILURE OCCURS IN WS TX/RX OF ONU	SW REQ. BY WORKING SF	(ONU IS) SELECTING WS	NO SW REQ.	(OLT IS) SELECTING SS	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-K1 BYTE	DETECT RR BY RECEIVING K1/K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE	~S13
	SW REQ. BY WORKING SF	(ONU IS) SELECTING SS	NO SW REQ.	(OLT IS) SELECTING SS	DETECT RR BY RECEIVING K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE	~S14
EQUIPMENT FAILURE IS RESTORED IN WS TX/RX OF ONU	DO NOT REVERT TO WS	(ONU IS) SELECTING SS	NO SW REQ.	(OLT IS) SELECTING SS	DETECT SW REQ. CLEAR; DO NOT REVERT STATE; UPDATE T-K1 BYTE	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE	~S15
SIGNAL	SW REQ. BY STANDBY SD	(ONU IS) SELECTING SS	NO SW REQ.	(OLT IS) SELECTING SS	DETECT SW REQ. BY WS SD; SL is operating at SS; UPDATE T-KI BYTE	K2; DTOS	~S16
OCCURS IN SS TX/RX OF ONU	SW REQ. BY STANDBY SD	(ONU IS) SELECTING SS	NO SW REQ.	(OLT IS) SELECTING WS	[∵ 2]	DETECT RR BY RECEIVING K1/K2; SL IS SWITCHED TO WS; UPDATE T-K2 BYTE	~S17

OSSWESS, OSSIOI

~S18	~S19
DETECT RR BY RECEIVING K I/K2; SL IS SWITCHED TO WS; UPDATE T-K2 BYTE	
DETECT RR BY RECEIVING K2; SL IS SWITCHED TO WS; UPDATE T-K2 BYTE	NO REQ.; UPDATE KI BYTE
(OLT IS) SELECTING WS	S NO SW REQ. SELECTING NO SW REQ. SELECTING WS
SW REQ. BY SELECTING NO SW REQ. SELECTING SD WS	NO SW REQ.
(ONU IS) SELECTING WS	ONU IS) SELECTING WS
SW REQ. BY STANDBY SD	NO SW REQ.
SIGNAL DEGRADE OCCURS IN SS TX/RX OF ONU	SIGNAL DEGRADE IS RESTORED IN SS TX/RX OF ONU

NOTES: WS = WORKING SIDE

SS = STANDBY SIDE

TX/RX = TRANSMITTING AND RECEIVING SECTION ONU = OPTICAL NETWORK UNIT

OLT = OPTICAL LINE TERMINATION

REQ. = REQUEST

SW = SWITCH OR SWITCHING

SF = SIGNAL FAIL

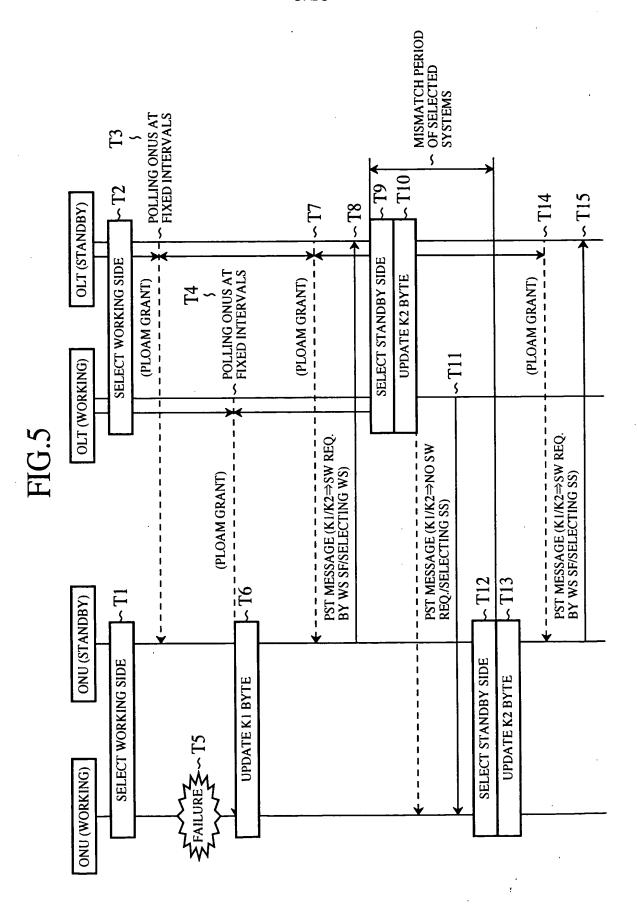
SD = SIGNAL DEGRADE

T-KI = TRANSMISSION KI BYTE

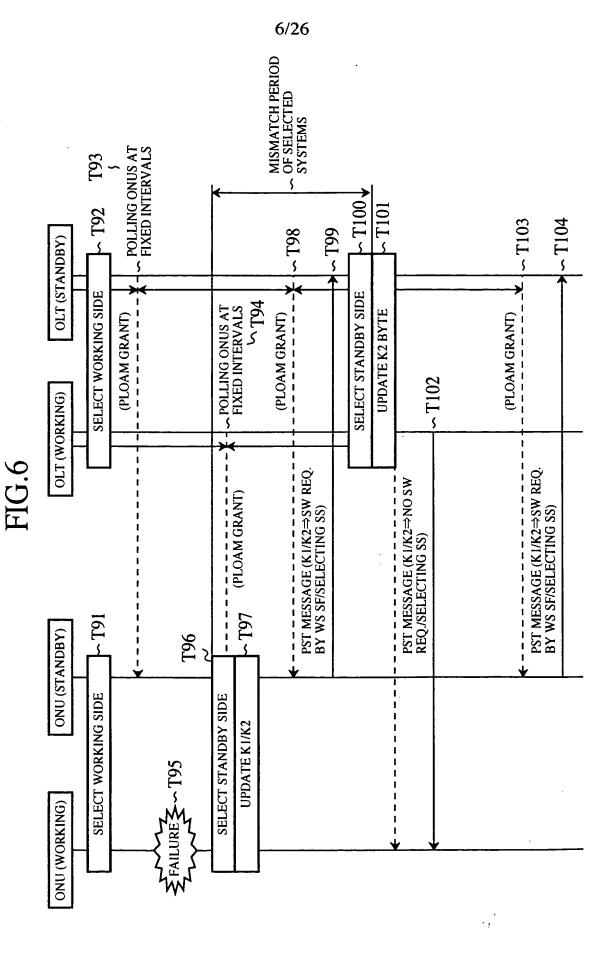
T-K2 = TRANSMISSION K2 BYTE RR = REMOTE REQUEST

SL = SELECTOR

DOGHESS, DABIO1



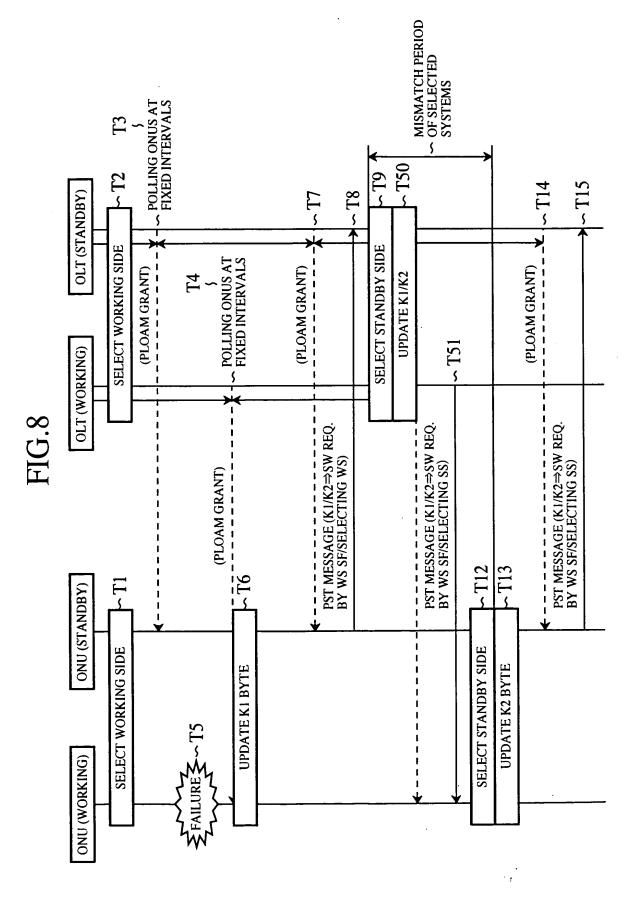
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CONTROL EXAMPLE (REVERTIVE MODE)

~ S12 **S13 S14** \sim S22 **S**23 **S11 S21** START RESTORE TIMER; SL IS OPERATING AT SS SL IS SWITCHED TO WS; UPDATE T-K2 BYTE STOP RESTORE TIMER; SL IS SWITCHED TO WS; UPDATE T-K2 BYTE RECEIVING KI/K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE SL IS WORKING AT WS SL IS WORKING AT WS SL IS SWITCHED TO SS. STOP RESTORE TIMER; UPDATE T-K2 BYTE RECEIVING K1/K2; DETECT RR BY OLT OPERATION DETECT SW REQ. CLEAR; WAIT TO REVERT STATE; UPDATE T-K1 BYTE DETECT SW REQ. CLEAR; WAIT TO REVERT STATE; UPDATE T-KI BYTE DETECT RR BY RECEIVING K2; SL IS SWITCHED TO WS; UPDATE KI BYTE DETECT RR BY RECEIVING K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE SL IS OPERATING IN WS SL IS WORKING AT WS; WORKING SF; SL IS WORKING AT WS; UPDATE T-KI BYTE DETECT SW REQ. BY DETECT SW REQ. BY UPDATE T-K1 BYTE ONO WORKING SF; (OLT IS) SELECTING WS (OLT IS) SELECTING WS (OLT IS) SELECTING SS (OLT IS) SELECTING SS (OLT IS) SELECTING WS (OLT IS) SELECTING (OLT IS) SELECTING SS K2 BYTE OLT TO ONU NO SW REQ. K1 BYTE (ONU IS) SELECTING WS (ONU IS) SELECTING WS (ONU IS) SELECTING WS (ONU IS) SELECTING SS SELECTING SS (ONU IS) SELECTING WS (ONU IS) SELECTING SS K2 BYTE (ONU IS) ONU TO OLT REQUESTING TO REVERT TO WS WAITING TO REVERT TO WS SW REQ. BY WORKING SF SW REQ. BY WORKING SF SW REQ. BY WORKING SF NO SW REQ. NO SW REQ. KI BYTE REVERSION WAITING EXPIRES AT OLT RESTORED IN WS OCCURS IN WS TX/RX OF ONU FAULT STATE **TX/RX OF ONU** NO FAILURE EQUIPMENT FAILURE IS EQUIPMENT FAILURE



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CONTROL EXAMPLE (NON-REVERTIVE MODE)

		~ S111	~ S12	~S13'	~ S14'	~ S15'	~ S15"	~ S16'
OPERATION	OLT	SL IS WORKING AT WS	SL IS WORKING AT WS	DETECT RR BY RECEIVING K1/K2; SL IS SWITCHED TO SS; UPDATE T-K1/K2 BYTES	DETECT RR BY RECEIVING K I/K2; SL IS SWITCHED TO SS; UPDATE T-K I/K2 BYTES	DETECT RR BY RECEIVING K I/K2; SL IS SWITCHED TO SS; UPDATE T-K I/K2 BYTES	DETECT RR RELEASE BY RECEIVING KI/K2; DO NOT REVERT STATE; UPDATE T-KI BYTE	DETECT RR RELEASE BY RECEIVING KI/K2; DO NOT REVERT STATE; UPDATE T-KI BYTE
OPER	ONO	SL IS OPERATING IN WS	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-KI BYTE	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-KI BYTE	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT SW REQ. CLEAR; UPDATE T-KI BYTE; DO NOT REVERT STATE	DETECT SW REQ. CLEAR; UPDATE T-KI BYTE; DO NOT REVERT STATE	DETECT SW REQ. BY WS SD; SL IS OPERATING AT SS; UPDATE T-KI BYTE
ONO C	K2 BYTE	(OLT IS) SELECTING WS	(OLT IS) SELECTING WS	(OLT IS) SELECTING SS	(OLT IS) SELECTING SS	(OLT IS) SELECTING SS	(OLT IS) SELECTING SS	(OLT IS) SELECTING SS
OLT TO ONU	KI BYTE	NO SW REQ.	NO SW REQ.	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	DO NOT REVERT TO WS	DO NOT REVERT TO WS
O OLT	K2 BYTE	(ONU IS) SELECTING WS	(ONU IS) SELECTING WS	(ONU IS) SELECTING WS	(ONU IS) SELECTING SS	(ONU IS) SELECTING SS	(ONU IS) SELECTING SS	(ONU IS) SELECTING SS
ONU TO OLT	KI BYTE	NO SW REQ.	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	DO NOT REVERT TO WS	DO NOT REVERT TO WS	SW REQ. BY STANDBY SD
EAIIIT STATE	FAULI STATE	NO FAILURE		EQUIPMENT FAILURE OCCURS IN WS TX/RX OF ONU		EQUIPMENT FAILURE IS	RESTORED IN WS TX/RX OF ONU	SIGNAL DEGRADE OCCURS IN SS TX/RX OF ONU

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~ S17'	~S18'.	~ S19'	~S19"
DETECT RR BY RECEIVING K I/K2; SL IS SWITCHED TO WS; UPDATE T-K I/K2 BYTES	ro ws; Bytes	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO WS; UPDATE T-KI/K2 BYTES	NO REQ.; UPDATE KI BYTE
DETECT SW REQ. BY WS SD; SL IS OPERATING AT SS; UPDATE T-K1 BYTE	DETECT RR BY RECEIVING KI AND K2; SL SWITCHED TO WS; UPDATE T-K2 BYTE	NO REQ.; UPDATE K1 BYTE	NO REQ.; UPDATE KI BYTE
(OLT IS) SELECTING WS	(OLT IS) SELECTING WS	(OLT IS) SELECTING WS	(OLT IS) SELECTING WS
SW REQ. BY STANDBY SD	SW REQ. BY STANDBY SD	SW REQ. BY STANDBY SD	NO SW REQ. SELECTING WS
ONU IS) SELECTING SS	ONU IS) SELECTING SS (ONU IS) SELECTING WS		(ONU IS) SELECTING WS
SW REQ. BY STANDBY SD	SW REQ. BY STANDBY SD	NO SW REQ. SELECTING WS	NO SW REQ.
SIGNAL		SIGNAL DEGRADE IS	RESTORED IN SS TX/RX OF ONU

CONTROL EXAMPLE (REVERTIVE MODE)		
ONTROL EXAMPLE (REVERTIVE MC	DE)	
ONTROL EXAMPLE (REV	ERTIVE MC	
ONTROL EXA	MPLE (REV	
	NTROL EXA	

		~S11	~S12	~S13'	~S14'	~ S21'	~ S21"
OPERATION	OLT	SL IS WORKING AT WS	SL IS WORKING AT WS	DETECT RR BY RECEIVING K1/K2; SL IS SWITCHED TO SS; UPDATE T-K1/K2 BYTES	DETECT RR BY RECEIVING K1/K2; SL IS SWITCHED TO SS; UPDATE T-K1/K2 BYTES	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO SS; UPDATE T-KI/K2 BYTES	DETECT RR RELEASE BY RECEIVING KI/K2; WAIT TO REVERT STATE; START RESTORE TIMER; UPDATE T-KI BYTE
OPER	ONU	SL IS OPERATING IN WS	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-KI BYTE	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-KI BYTE	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT SW REQ. CLEAR; UPDATE T-KI BYTE	DETECT SW REQ. CLEAR; UPDATE T-KI BYTE
ONU	K2 BYTE	(OLT IS) SELECTING WS	(OLT IS) SELECTING WS	(OLT IS) SELECTING SS	(OLT IS) SELECTING SS	(OLT IS) SELECTING SS	(OLT IS) SELECTING SS
OLT TO ONU	KI BYTE	NO SW REQ.	NO SW REQ.	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	REQUESTING TO REVERT TO WS
OOLT	K2 BYTE	ONU IS) SELECTING WS	ONU IS) SELECTING WS	(ONU IS) SELECTING WS	(ONU IS) SELECTING SS	(ONU IS) SELECTING SS	(ONU IS) SELECTING SS
ONU TO OLT	KI BYTE	NO SW REQ.	SW REQ. BY WORKING SF SW REQ. BY WORKING SF		SW REQ. BY WORKING SF	REQUESTING TO REVERT TO WS REQUESTING TO REVERT TO WS	
EATH T STATE	FAULI SIAIE	NO FAILURE		EQUIPMENT FAILURE OCCURS IN WS TX/RX OF ONU		EQUIPMENT	RESTORED IN WS TX/RX OF ONU

OSSARGA CERTOR

~ S22'	~ S23'
STOP RESTORE TIMER; SL IS SWITCHED TO WS; NO REQ. STATE; UPDATE T-KI/K2 BYTES	
DETECT SW REQ. CLEAR; UPDATE T-K1 BYTE	DETECT RR BY RECEIVING K I/K2; NO SW REQ. STATE; SL IS SWITCHED TO WS; UPDATE T-K2 BYTE
OLT IS) SELECTING WS	OLT IS) SELECTING WS
NO SW REQ.	SELECTING NO SW REQ. SELECTING SW
(ONU IS) SELECTING SS ·	ONU IS) SELECTING SW
WAITING TO REVERT TO SELECTING NO SW REQ. SELECTING WS WS	NO SW REQ.
REVERSION	WALLING EXPIRES AT OLT

		~S31	~ S32	~833	~ S34	~ S35	~S36
TION	OLT	(1)	ROUTER AND SL ARE OPERATING AT WS	DETECT RR BY RECEIVING K I/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-K I/K2 BYTES	DETECT RR BY RECEIVING K I/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-K I/K2 BYTES	DETECT RR BY RECEIVING K 1/K2 BYTES; SL IS SWITCHED TO SS	DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO SS
OPERATION	ONO	ROUTER AND SL ARE OPERATING AT WS	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-K1 BYTE	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-K1 BYTE	DETECT RR BY RECEIVING K1/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING K1/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT SW REQ. CLEAR; DO NOT REVERT STATE; UPDATE T-K1 BYTE
O ONU	K2 BYTE	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS
OLT TO ONU	KI BYTE	NO SW REQ.	NO SW REQ.	ACK	ACK	ACK	ACK
ONU TO OLT	K2 BYTE	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHE S ITS ROUTE TO SS
ONO	KI BYTE	NO SW REQ.	SW REQ. BY WORKING SF	REQ. BY REQ. BY REQ. BY REQ. BY		SW REQ. BY WORKING SF	DO NOT REVERT TO WS
EATH T CTATE	IAULI SIAIL	NO FAILURE		- HOLLIPMENT	FAILURE OCCURS IN WS TX/RX OF ONU		EQUIPMENT FAILURE IS RESTORED IN WS TX/RX OF ONU

DOSTEES, CESTOT

~837	~ S38	~S39	~ S40	~S41	~ S42
DETECT RR BY RECEIVING KI/K2 BYTES; ~ S37 SL IS SWITCHED TO SS	DETECT RR BY RECEIVING KI/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-KI/K2 BYTES	DETECT RR BY RECEIVING KI/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-KI/K2 BYTES	DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO SS	DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO SS	NO REQ.; UPDATE KI BYTE
DETECT SW REQ. BY WS SD; SL IS OPERATING AT SS; UPDATE T-KI BYTE	DETECT SW REQ. BY WS SD; SL IS OPERATING AT SS; UPDATE T-KI BYTE	DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING KI/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	NO REQ.; UPDATE KI BYTE	NO REQ.; UPDATE KI BYTE
OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS
NO SW REQ.		ACK	ACK	ACK	NO SW REQ.
(ONU) ESTABLISHES ITS ROUTE TO SS ((ONU) ESTABLISHES ITS ROUTE TO SS		(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHE S ITS ROUTE TO WS
SW REQ. BY STANDBY SD SW REQ. BY STANDBY SD		SW REQ. BY STANDBY SD SW REQ. BY STANDBY SD		NO SW REQ.	NO SW REQ.
	IANUIA	DEGRADE OCCURS IN SS TX/RX OF ONU		SIGNAL DEGRADE IS	RESTORED IN SS TX/RX OF ONU

Dookess, cearor

FIG.15

		~S31	~ S32	~S33	~S34	~835	~S51
TION	OLT	ROUTER AND SL ARE OPERATING AT WS	ROUTER AND SL ARE OPERATING AT WS	DETECT RR BY RECEIVING K I/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-K I/K2 BYTES	DETECT RR BY RECEIVING K I/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-K I/K2 BYTES	DETECT RR BY RECEIVING K 1/K2 BYTES; SL IS SWITCHED TO SS	START RESTORE TIMER; SL IS OPERATING AT SS
OPERATION	ONU	ROUTER AND SL ARE OPERATING AT WS	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-KI BYTE	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-K1 BYTE	DETECT RR BY RECEIVING K1/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING K1/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT SW REQ. CLEAR; WAIT TO REVERT STATE; UPDATE T-KI BYTE
OLT TO ONU	K2 BYTE	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS
OLTI	KI BYTE	NO SW REQ.	NO SW REQ.	ACK	ACK	ACK	ACK
ONU TO OLT	K2 BYTE	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHE S ITS ROUTE TO SS
ONUT	KI BYTE	NO SW REQ.	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF			REQUESTING TO REVERT TO WS
EATHT STATE	FAULI STATE	NO FAILURE		FOLLIPMENT	FAILURS IN WS OCCURS IN WS TX/RX OF ONU		EQUIPMENT FAILURE IS RESTORED IN WS TX/RX OF ONU

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~ S52	~853	~ S54
STOP RESTORE TIMER; ROUTER IS SWITCHED TO WS; NO SW REQ. STATE; UPDATE T-KI/K2 BYTES	TIMER TTCHED 'ATE;	DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO WS
DETECT SW REQ. CLEAR; WAIT TO REVERT STATE; UPDATE T-KI BYTE	DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO WS; ROUTER IS SWITCHED TO WS; UPDATE T-K I/K2 BYTES	DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO WS; ROUTER IS SWITCHED TO WS; UPDATE T-K I/K2 BYTES
(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS
NO SW REQ.	NO SW REQ.	NO SW REQ.
(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS
WAITING TO REVERT TO WS	NO SW REQ.	NO SW REQ.
	REVERSION WAITING EXPIRES AT OLT	

		~S31	~S32	~ S33	~ S34	~S35	~S36	~S36'
NOL	OLT	ROUTER AND SL ARE OPERATING AT WS	ROUTER AND SL ARE OPERATING AT WS	DETECT RR BY RECEIVING K I/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-K I/K2 BYTES	DETECT RR BY RECEIVING KI/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-KI/K2 BYTES	DETECT RR BY RECEIVING K 1/K2 BYTES; SL IS SWITCHED TO SS	DETECT RR BY RECEIVING K 1/K2 BYTES; SL IS SWITCHED TO SS	DETECT RR RELEASE BY RECEIVING K I/K2 BYTES; DO NOT REVERT STATE; UPDATE T-KI BYTE
OPERATION	ONU	ROUTER AND SL ARE OPERATING AT WS	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-K1 BYTE	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-KI BYTE	DETECT RR BY RECEIVING KI/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING KI/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT SW REQ. CLEAR; DO NOT REVERT STATE; UPDATE T-K! BYTE	DETECT SW REQ. CLEAR; DO NOT REVERT STATE; UPDATE T-K! BYTE
OLT TO ONU	K2 BYTE	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS
OLTT	KI BYTE	NO SW REQ.	NO SW REQ.	ACK	ACK	ACK	ACK	DO NOT REVERT TO WS
ONU TO OLT	K2 BYTE	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHE S ITS ROUTE TO SS	(ONU) ESTABLISHE S ITS ROUTE TO SS
ONO	KI BYTE	NO SW REQ.	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	DO NOT REVERT TO WS	DO NOT REVERT TO WS
EATH T STATE	ואסבו פושוב	NO FAILURE		EQUIPMENT	OCCURS IN WS TX/RX OF ONU		EQUIPMENT FAILURE IS	RESTORED IN WS TX/RX OF ONU

DASHESSY . DESILOI

2 1 0 9 8 7					
~S37′ ~S38		~S39	~ S40	~ S41	~ S42
DETECT RR RELEASE BY RECEIVING KI/K2 BYTES; DO NOT REVERT STATE; UPDATE T-K1 BYTE DETECT RR BY RECEIVING KI/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-K1/K2 BYTES		DETECT RR B RECEIVING K ROUTER IS SV TO SS; UPDATE T-K1 UPDATE T-K1 DETECT RR B RECEIVING K SL IS SWITCH		DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO SS	NO REQ.; UPDATE KI BYTE
DETECT SW REQ. BY STANDBY SD; SL IS OPERATING AT SS; UPDATE T-KI BYTE	DETECT SW REQ. BY STANDBY SD; SL IS OPERATING AT SS; UPDATE T-K1 BYTE	DETECT RR BY RECEIVING K1/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING K1/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	NO REQ.; UPDATE KI BYTE	NO REQ.; UPDATE KI BYTE
(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO WS	OLT) (OLT) ESTABLISHES ITS ROUTE TO WS (OLT)		(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS
DO NOT REVERT TO WS	ACK	ACK	ACK	ACK	NO SW REQ.
(ONU) ESTABLISHES ITS ROUTE TO SS	((ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHE S ITS ROUTE TO WS
SW REQ. BY STANDBY SD SW REQ. BY STANDBY STANDBY		SW REQ. BY STANDBY SD	SW REQ. BY STANDBY SD	NO SW REQ.	NO SW REQ.
SIGNAL DEGRADE OCCURS IN SS TX/RX OF ONU				SIGNAL DEGRADE IS RESTORED IN SS TX/RX OF ONU	

DOS+ESS7.CS3101

		~S31	~S32	~ S33	~ S34	~S35	~S51	~S51'
ON	OLT	ROUTER AND SL ARE OPERATING AT WS	ROUTER AND SL ARE OPERATING AT WS	DETECT RR BY RECEIVING K I/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-K I/K2 BYTES	DETECT RR BY RECEIVING K I/K2 BYTES; ROUTER IS SWITCHED TO SS; UPDATE T-K I/K2 BYTES	DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO SS	DETECT RR BY RECEIVING K I/K2 BYTES; SL IS SWITCHED TO SS	DETECT RR RELEASE BY RECEIVING K I/K2 BYTES; WAIT TO REVERT STATE; START RESTORE TIMER; UPDATE T-KI BYTE
OPERATION	ONU	ROUTER AND SL ARE OPERATING AT WS	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-K1 BYTE	DETECT SW REQ. BY WORKING SF; SL IS WORKING AT WS; UPDATE T-K! BYTE	DETECT RR BY RECEIVING KI/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING KI/K2 BYTES; SL IS SWITCHED TO SS; ROUTER IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT SW REQ. CLEAR; WAIT TO REVERT STATE; UPDATE T-KI BYTE	DETECT SW REQ. CLEAR; WAIT TO REVERT STATE; UPDATE T-KI BYTE
ONU TO OLT	K2 BYTE	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS	(OLT) ESTABLISHES ITS ROUTE TO SS
	KI BYTE	NO SW REQ.	NO SW REQ.	ACK	ACK	ACK	ACK	REQUESTING TO REVERT TO WS
	K2 BYTE	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHES ITS ROUTE TO SS
	KI BYTE	NO SW REQ.	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	REQUESTI NG TO REVERT TO WS.	REQUESTI NG TO REVERT TO WS.
	FAULT STATE	NO FAILURE		EQUIPMENT FAILURE OCCURS IN WS TX/RX OF ONU			EQUIPMENT	RESTORED

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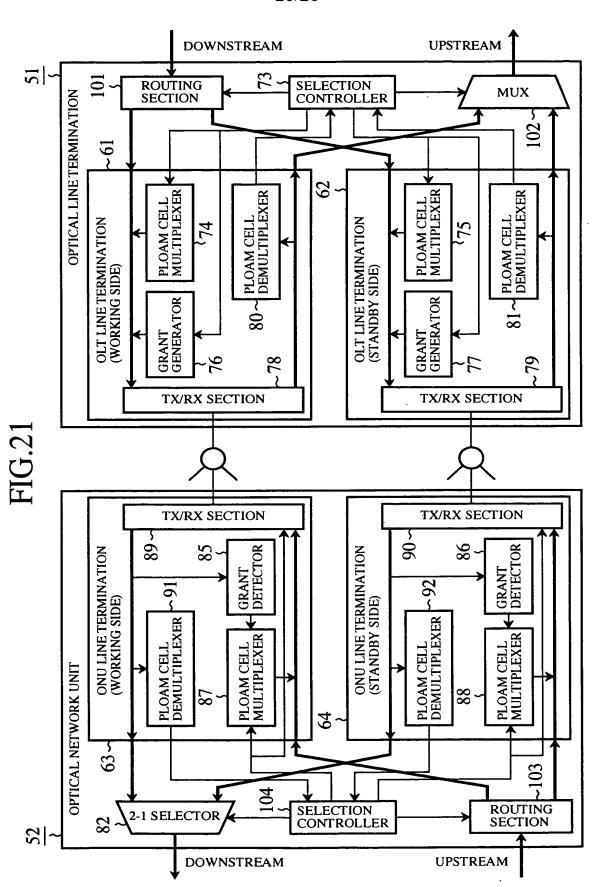
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~852	~S53	~ S54		
STOP RESTORE TIMER; ROUTER IS SWITCHED TO WS; NO SW REQ. STATE; UPDATE T-KI/K2 BYTES	STOP RESTORE TIMER; ROUTER IS SWITCHED TO WS; NO SW REQ. STATE; UPDATE T-KI/K2 BYTES	DETECT RR BY RECEIVING KI/K2 BYTES; SL IS SWITCHED TO WS		
DETECT SW REQ. CLEAR; WAIT TO REVERT STATE; UPDATE T-KI BYTE	DETECT RR BY RECEIVING KI/K2 BYTES; SL IS SWITCHED TO WS; ROUTER IS SWITCHED TO WS; UPDATE T-KI/K2 BYTES	DETECT RR BY RECEIVING KI/K2 BYTES; SL IS SWITCHED TO WS; ROUTER IS SWITCHED TO WS; UPDATE T-KI/K2 BYTES		
(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS	(OLT) ESTABLISHES ITS ROUTE TO WS		
NO SW REQ.	NO SW REQ.	NO SW REQ.		
(ONU) ESTABLISHES ITS ROUTE TO SS	(ONU) ESTABLISHES ITS ROUTE TO WS	(ONU) ESTABLISHES ITS ROUTE TO WS		
WAITING TO REVERT TO WS	NO SW REQ.	NO SW REQ.		
REVERSION WAITING EXPIRES AT OLT				

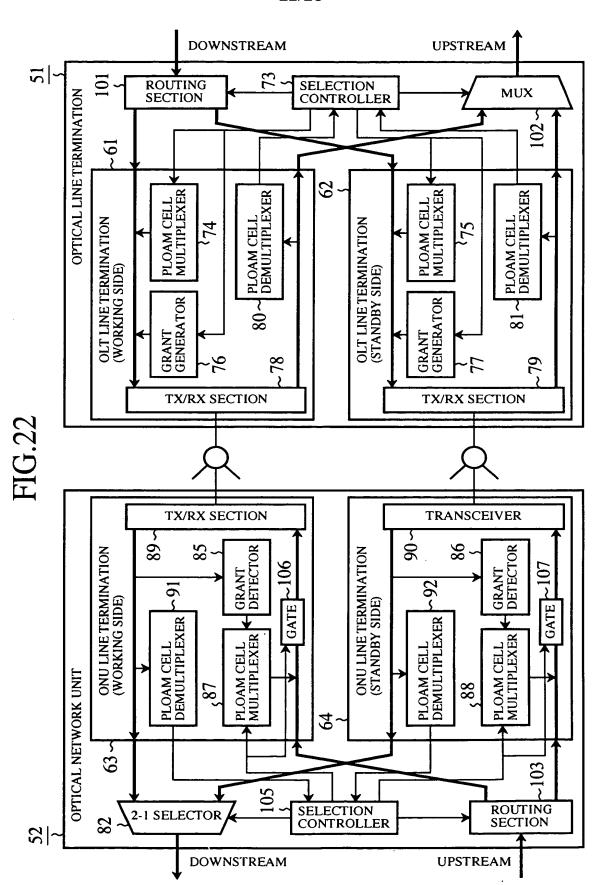
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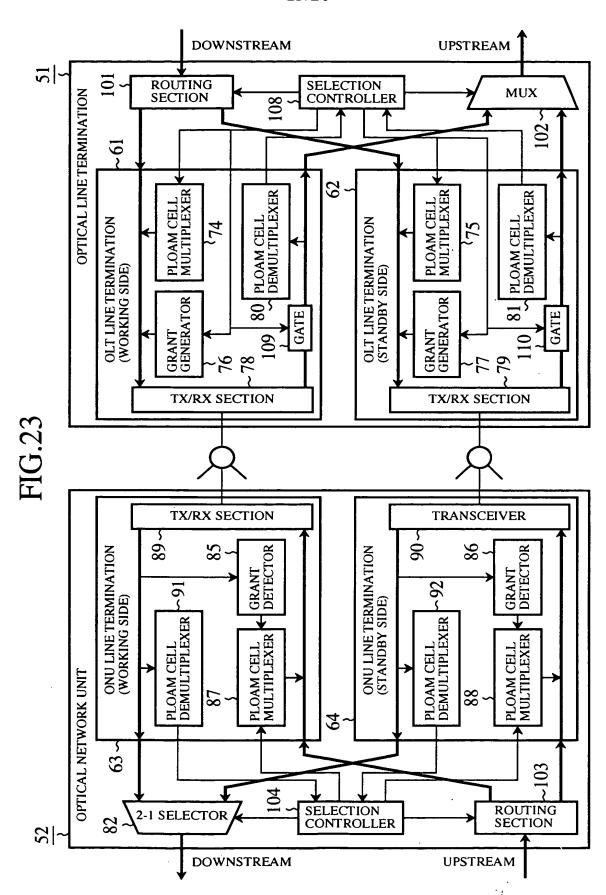
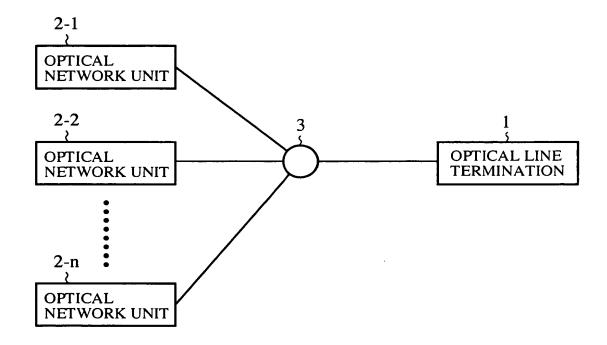
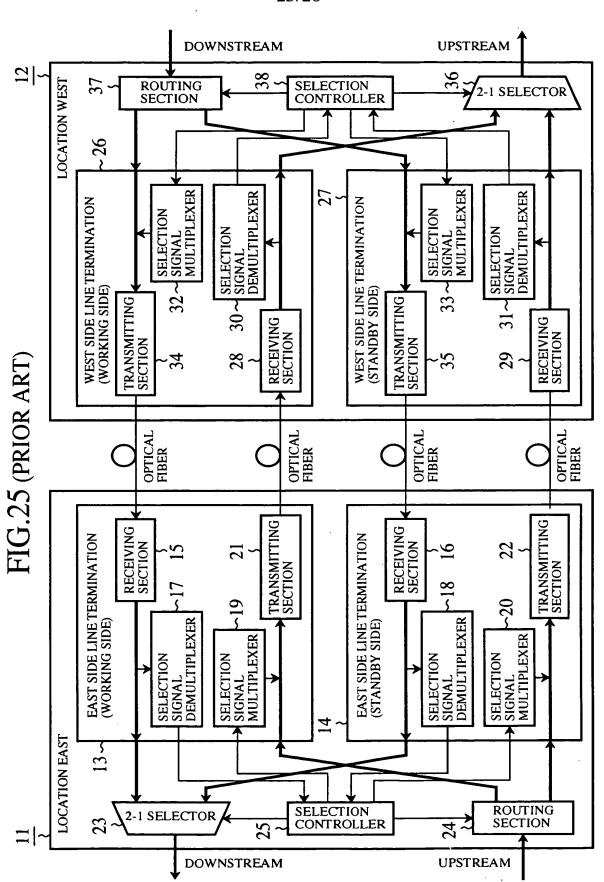


FIG.24 (PRIOR ART)



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FIG.26 (PRIOR ART) CONTROL EXAMPLE (NON-REVERTIVE MODE)

		~ S1	~ S2	~ S3	~ S4	~ S5	9S~	~ S7
rion	LW	SL IS OPERATING IN WS	SL IS OPERATING IN WS	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO SS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO WS; UPDATE T-K2 BYTE	DETECT RR BY RECEIVING KI/K2; SL IS SWITCHED TO WS; UPDATE T-K2 BYTE
OPERATION	LE	SL IS OPERATING IN WS	DETECT SW REQ. BY WORKING SF; SL IS SWITCHED TO SS; UPDATE T-KI/K2 BYTES	DETECT SW REQ. BY WORKING SF; SL IS SWITCHED TO SS; UPDATE T-KI/K2 BYTES	DETECT SW REQ. CLEAR; DO NOT REVERT STATE; UPDATE T-KI BYTE	DETECT SW REQ. BY WORKING SD; SL IS SWITCHED TO WS; UPDATE T-KI/K2 BYTES	DETECT SW REQ. BY WORKING SD; SL IS SWITCHED TO WS; UPDATE T-KI/K2 BYTES	NO REQ.; UPDATE K1 BYTE
LWTOLE	K2 BYTE	(LW IS) SELECTING WS	(LW IS) SELECTING WS	(LW IS) SELECTING SS	(LW IS) SELECTING SS	(LW IS) SELECTING SS	(LW IS) SELECTING WS	(LW IS) SELECTING WS
	KI BYTE	NO SW REQ.	NO SW REQ.	NO SW REQ.	NO SW REQ.	NO SW REQ.	NO SW REQ.	NO SW REQ.
) LW	K2 BYTE	(LE IS) SELECTING WS	(LE IS) SELECTING SS	(LE IS) SELECTING SS	(LE IS) SELECTING SS	(LE IS) SELECTING WS	(LE IS) SELECTING WS	(LE IS) SELECTING WS
LETOLW	KI BYTE	NO SW REQ.	SW REQ. BY WORKING SF	SW REQ. BY WORKING SF	DO NOT REVERT TO WS	SW REQ. BY STANDBY SD	SW REQ. BY STANDBY SD	NO SW REQ.
EA 111 T CT ATE	FAULI STATE	NO FAILURE	EQUIPMENT FAILURE OCCURS IN WS RX OF LE EQUIPMENT FAILURE IS RESTORED IN WS RX OF LE DEGRADE OCCURS IN SS RX OF LE		SIGNAL DEGRADE IS RESTORED IN SS RX OF LE			

NOTE: LE-LOCATION EAST; LW-LOCATION WEST